

ABSTRACT OF THE DISCLOSURE

HMGI PROTEINS IN CANCER AND OBESITY

The present invention pertains to a method for detecting HMGI-C or HMGI(Y) as a diagnostic marker for benign or malignant tumors using a probe for a sample from a patient that recognizes HMGI-C or HMGI(Y). The method comprises the steps of (a) contacting HMGI-C or HMGI(Y) from a sample from a patient with a probe which binds to HMGI-C or HMGI(Y); and (b) analyzing for HMGI-C or HMGI(Y) by detecting levels of the probe bound to the HMGI-C or HMGI(Y). The presence of HMGI-C or HMGI(Y) in the sample is positive for a benign or malignant tumor. The present invention also pertains to a method for detecting antibodies to HMGI-C or HMGI(Y) as a diagnostic marker for benign or malignant tumors. The present invention further pertains to a method for treating benign and malignant tumors in a patient by blocking the biological activity of HMGI-C or HMGI(Y). The present invention still further pertains to a transgenic non-human mammal, the germ cells and somatic cells of which contain an inactivated HMGI gene sequence introduced into the mammal, or an ancestor of the mammal, at an embryonic stage. The present invention also pertains to a method for treating obesity in a mammal which comprises reducing the biological activity of HMGI genes in the mammal. The present invention further pertains to a method for regulating growth and development of adipose tissue in a mammal which comprises reducing the biological activity of HMGI genes in the mammal. The present invention also pertains to a method for screening candidate compounds capable of inhibiting HMGI biological activity. The present invention also pertains to a mammal whose genome does not encode for both the functionally active leptin gene and the functionally active HMGI genes.